



Preface

Photocatalysis: Science and applications

This special issue of Applied Catalysis B: environmental is a collection of 28 papers originally presented at the 8th European Meeting on Solar Chemistry and Photocatalysis: Environmental Applications – SPEA8 that was held in Thessaloniki, Greece in summer 2014. This well-established, biennial conference traditionally attracts people from all over the world, creating an opportunity for participants from academia, research centers, small and medium enterprises, industry and governmental decision makers, working in the field of environmental photocatalysis and photochemistry, to convene and share their experiences and knowledge.

The conference covers a broad range of sub-topics and this is reflected to the contents of this special issue. Synthesis, characterization and testing of new materials with enhanced photocatalytic properties to battle water, air and soil pollution has been the theme of several papers; such materials include, amongst others, perovskites, ceramic membranes, self-cleaning surfaces, zeolite/titania composites and plasmonic titania/ruthenium complexes. Semiconductor photocatalysis and photo-Fenton processes have been employed for the removal of emerging micro-pollutants (including pharmaceuticals and personal care products, endocrine disruptors and pesticides), as well as pathogens from waters; new reactor designs, hybrid processes (i.e., photocatalytic ozonation) and modified titania have been proposed to enhance photocatalytic performance. Finally, a group of four contributions deal with the photocatalytic utilization of CO₂ and the generation of hydrogen.

We wish to thank the Editors of the Journal, and in particular Professor Xenophon Verykios, for giving us the opportunity to com-

pile this issue. Special thanks are also due to the editorial assistants for their continuous support in preparing the issue. We are also indebted to all the authors and reviewers who helped in making this issue on Photocatalysis: Science and applications an excellent reference material.

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Available online 3 April 2015